**WE CLAIM:**

1. A method of machining a plurality of circumferentially spaced bores in an object, each of the bores extending generally tangentially and inwardly and being positioned in the object so as to generally asymmetrically intersect two adjacent bores, the method comprising steps of:

   a) providing the object;

   b) determining a plurality of bore positions generally around a circumference of the object;

   c) machining a first bore;

   d) performing at least one subsequent machining operation on the first bore to substantially complete the first bore;

   e) machining a second bore immediately adjacent to the completed first bore, wherein the second bore is machined so as to intersect the completed first bore;

   f) performing at least one subsequent machining operation on the second bore to substantially complete the second bore;

   g) sequentially machining a remaining plurality of bores except a final bore, wherein each said bore is machined so as to intersect an immediately adjacent completed bore; and

   h) machining the final bore immediately intermediate the first bore and a second-final bore wherein the final bore is machined so as to intersect the first and second-final bores.

2. A method as claimed in claim 1 wherein the step (g) further comprises performing at least one subsequent machining operation on each said bore to substantially complete said bores.

3. A method as claimed in claim 2 further comprising a step of plugging a previously completed and immediately adjacent bore before each of the bores is machined.

4. A method as claimed in claim 3 wherein the plugging step comprises steps of:

providing a first plug generally for plugging a previously completed and immediately adjacent bore when roughing each of the bores; and

providing a second plug generally for plugging a previously completed and immediately adjacent bore when finishing each of the bores.

5. A method as claimed in claim 4 wherein the machining process of a third bore to a second-final bore further comprises steps of:

inserting the first plug into a previously completed and immediately adjacent bore before roughing each of the bores;

removing the first plug from the previously completed and immediately adjacent bore after roughing the bore;

inserting the second plug into the previously completed and immediately adjacent bore after the first plug is removed from same and before finishing the roughed bore; and

removing the second plug from the previously completed and immediately adjacent bore after finishing the bore.

6. A method as claimed in claim 4 comprising steps of:

inserting the second plug into the completed first bore before roughing the second bore such that the second plug remains in the completed first bore when roughing and finishing the second bore;

removing the second plug from the completed first bore after finishing the second bore.

7. A method as claimed in claim 4 wherein the machining process of the final bore comprises steps of:

inserting the second plug into the completed first bore and,

inserting the first plug into a completed second-final bore such that the first plug and second plug remain in the respective bores until the final bore is roughed and finished.

8. A method as claimed in claim 1 further comprising a step of providing a plurality of pilot holes around the circumference of the object before machining the first bore, wherein the pilot holes generally do not intersect one another and wherein the plurality of pilot holes are one less in number than the plurality of bore positions such that the bores except the final bore are machined from the respective pilot bores.

9. A method as claimed in claim 1 wherein the machining of the final bore comprises steps of:

providing a pilot hole at a bore position for the final bore wherein the pilot hole does not intersect either one of the immediately adjacent completed bores positioned at opposite sides thereof; and

machining the final bore from the pilot hole for the final bore.

10. A method as claimed in claim 2 wherein the machining of the final bore further comprises performing at least one subsequent machining operation on the final bore to complete same

11. A method as claimed in claim 10 wherein the at least one subsequent machining operation performed on each of the bores from the first to the final further comprises a step of a reaming operation.

12. A method as claimed in claim 11 wherein the at least one subsequent machining operation performed on each of the bores from the first to the final further comprises a burnishing operation.

13. A method of machining a plurality of bores in a turbine engine diffuser ring, the bores being circumferentially and equally spaced apart, and surrounding a turbine engine impeller in tangential positions when the diffuser ring is assembled with the impeller, each bore being intersected by two adjacent bores in an asymmetrical configuration, comprising steps of:

a) determining a plurality of bore positions generally around a circumference of the diffuser ring;

b) providing a plurality of pilot holes inwardly extending into the diffuser ring, each corresponding to one of the bore positions except a position which is for a final bore to be machined, and each of the pilot holes having a limited depth so that the adjacent pilot holes do not intersect one another;

c) selecting a first bore to be machined from one of two pilot holes adjacent to the position reserved for the final bore to be machined;

d) roughing the first bore along the corresponding pilot hole to a desired depth;

e) finishing the first bore;

f) roughing a next bore along a pilot hole adjacent to the previously completed bore to the desired depth;

g) finishing the next bore;

h) repeating the steps (f) and (g) to sequentially complete the remaining bores to be machined except the final bore to be machined; and

i) roughing and finishing the final bore.

14. A method as claimed in claim 13 wherein the step (i) further comprises:

providing a pilot hole in the position reserved for the final bore to be machined, the preliminary bore having a depth limited to prevent

intersection with either one of the previously completed adjacent bores.

15. A method as claimed in claim 14 wherein the first bore to be machined is selected in such a way that an intersection of the first bore and a second bore will occur at an end of the second bore while the second bore is being roughed and finished.

16. A method as claimed in claim 15 further comprising steps of:

inserting a second plug into the completed first bore before roughing the second bore, and removing the second plug from the completed first bore after finishing the second bore;

inserting a first plug into a previously completed adjacent bore for the roughing of each bore from a third bore to a second-final bore, and removing the first plug after roughing the bore;

inserting the second plug into a previously completed adjacent bore for the finishing of each roughed bore from a third bore to a second-final bore, and removing the second plug after finishing the bore; and

inserting the second plug into the completed first bore and inserting the first plug into the completed second-final bore for the roughing and finishing of the final bore.

17. A method as claimed in claim 16 wherein the finishing of all the respective bores comprises steps of:

reaming each of the bores; and

burnishing at least a section of the bore after reaming same.

18. A method as claimed in claim 17 wherein the burnishing of each of the bores is limited to a depth thereof not reaching the intersection thereof with an adjacent bore which is located at the end of the bore in this burnishing process.

19. A method as claimed in claim 13 wherein each of the bores extends in close proximity to an inner periphery of the diffuser ring.